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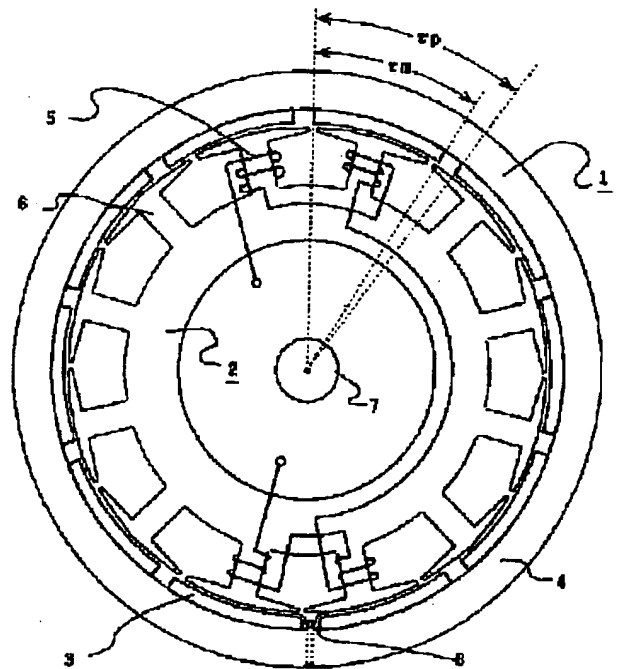
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TITLE : BRUSHLESS MOTOR



ABSTRACT : PROBLEM TO BE SOLVED: To obtain a high efficiency brushless motor containing no cogging torque and having a simple structure wherein the stator is constructed by winding an armature winding around teeth and the rotor is constructed by applying magnets on the surface of a yoke such that the relationship between the pole pitch and the circumferential length at the magnetized part of a magnet falls within a specified range.

SOLUTION: Magnets 3 of identical shape and magnetization are arranged at a constant pole pitch to a rotor iron 4 and pasted thereto. Polarity of the magnets is alternated and the intensity of magnetization is equalized for all magnets and made uniform on the magnet surface. The pole pitch τ_p and the circumferential length τ_m of the magnet 3 satisfy a relationship $\tau_m < \tau_p$. Teeth 6 are arranged at constant pitch on the stator and a coil 5 is wound concentrically around the teeth. Opening of a slot receiving the coil 5 is limited in order to prevent spring out of the coil and to reduce harmonic field at the gap part. According to the arrangement, a high efficiency brushless motor containing no cogging torque and having a simple structure can be obtained.

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